ARIZONA CHEMISTRY · UNIT 3 · 25 QUESTIONS

Stoichiometry and Solutions — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **Water has molar mass 18 grams per mole. The number of moles in 36 g of water is ____**



ANSWER _____

Understand It with Pulse | Flag a mistake

2 **Using atomic masses 12 for carbon and 16 for oxygen, the molar mass of carbon dioxide, in grams per mole, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **One mole of any substance contains about**

A 1.60×10^{23}

B 3.01×10^{23}

C 6.02×10^{23}

D 6.02×10^{22}

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4 **Sodium chloride has molar mass 58.5 grams per mole. The mass, in grams, of 3 mol of sodium chloride is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

5

In the reaction

$2H_2 + O_2 \rightarrow 2H_2O$,

how many moles of water form from 4 mol of hydrogen



A 2

B 4

C 8

D 1

Understand It with Pulse

Flag a mistake

6 **Methane has molar mass 16 grams per mole. The number of moles in 80 g of methane is ____**

ANSWER _____

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7 **In a reaction, the limiting reactant is the reactant that**

A Is left over

B Has the largest mass

C Is a gas

D Is used up first

Understand It with Pulse | Flag a mistake

8 **At standard temperature and pressure, one mole of gas occupies 22.4 L. The volume, in liters, of 0.5 mol of gas at standard conditions is _____**

ANSWER _____

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9 **Sodium hydroxide has molar mass 40 grams per mole. The mass, in grams, of 1.5 mol of sodium hydroxide is _____**

ANSWER

Understand It with Pulse | Flag a mistake

10 **Molarity is defined as**



A Moles of solute per liter of solution

B Grams of solute per mole

C Liters of solvent per mole

D Moles of solvent per liter

Understand It with Pulse | Flag a mistake

11 **A solution contains 4 mol of solute in 2 L of solution. Its molarity, in moles per liter, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

12 **Adding water to a solution without adding solute**

A Increases its concentration

B Decreases its concentration

C Leaves its concentration unchanged

D Removes the solute

Understand It with Pulse | Flag a mistake

13 **A solution is made from 10 g of salt and 90 g of water. The percent by mass of salt in the solution is**



A 11

B 20

C 10

D 9

Understand It with Pulse | Flag a mistake

14 **Calcium carbonate has molar mass 100 grams per mole. The number of moles in 100 g of calcium carbonate is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

15 **A compound has atoms in the ratio carbon 1, hydrogen 2, oxygen 1. Its empirical formula is**

A CHO

B C_2H_2O

C CH_4O

D CH_2O

Understand It with Pulse | Flag a mistake

16 **At standard temperature and pressure, the volume, in liters, of 3 mol of gas is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

17 **In a balanced equation, the coefficients give the ratio of**

A Densities

B Moles

C Masses

D Volumes of solids

Understand It with Pulse | Flag a mistake

18 **Oxygen gas has molar mass 32 grams per mole. The mass, in grams, of 4 mol of oxygen gas is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **The concentration of a solution increases when**



A Solute is added

B Water is added

C Solution is poured out

D Solution is cooled

Understand It with Pulse | Flag a mistake

20 **A solution contains 2 mol of solute in 4 L of solution. Its molarity, in moles per liter, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **Which sample contains the most moles**

A 44 g of carbon dioxide

B 36 g of water

C 32 g of oxygen

D 58.5 g of sodium chloride

Understand It with Pulse | Flag a mistake

22 **Carbon dioxide has molar mass 44 grams per mole. The number of moles in 132 g of carbon dioxide is ____**

ANSWER _____

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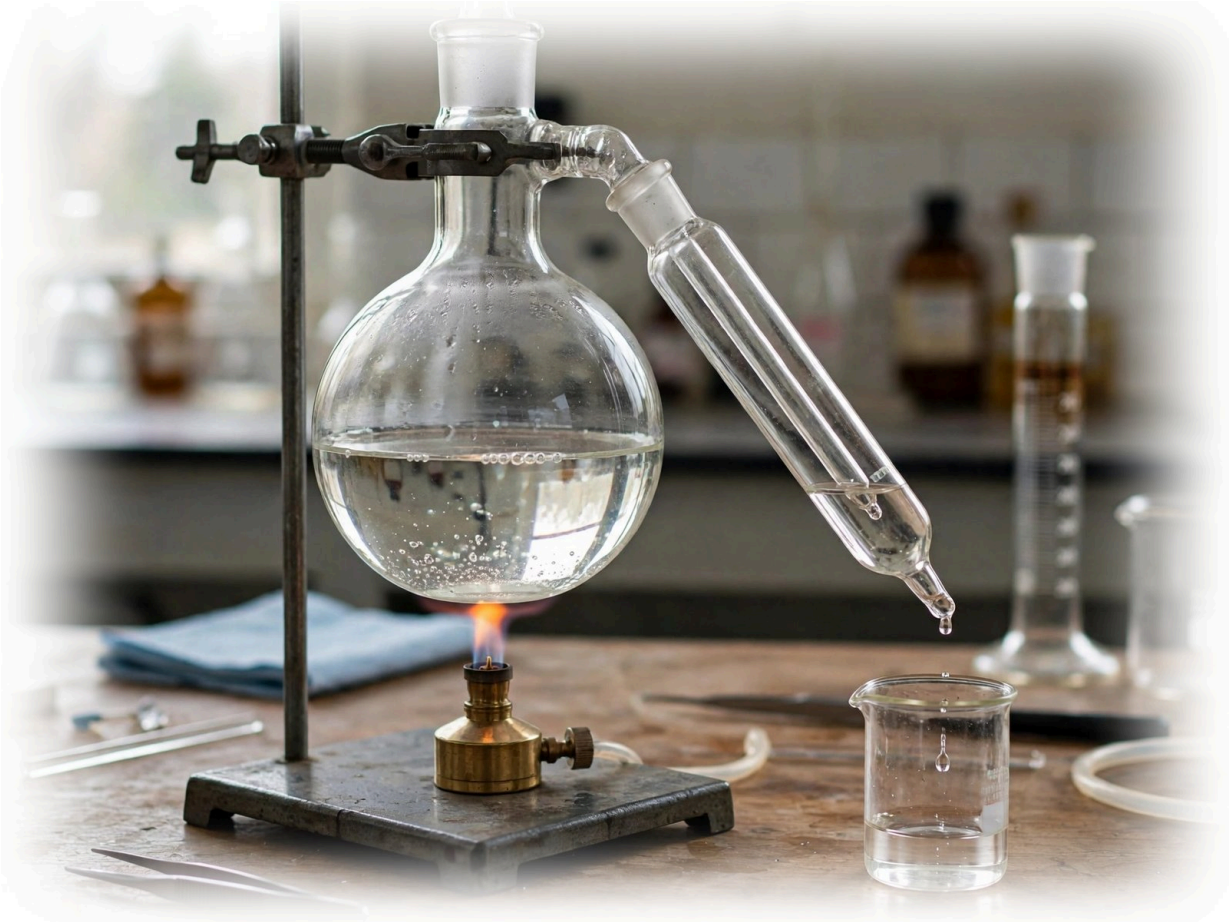
23 **Percent yield is calculated as**



A Actual yield ÷ theoretical yield, × 100

B Theoretical yield ÷ actual yield

C Actual yield + theoretical yield

D Theoretical yield - actual yield

Understand It with Pulse | Flag a mistake

24 **In the reaction**
$2H_2 + O_2 \rightarrow 2H_2O$,
starting with 2 mol of hydrogen, the maximum mass of water, in grams, is ____

ANSWER _____

Understand It with Pulse | Flag a mistake

25 **Which statement about a balanced chemical equation is true**

A Atoms are conserved

B Moles are always conserved

C Mass increases

D Volume is always conserved

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. 2
2. 44
3. C
4. 175.5
5. B
6. 5
7. D
8. 11.2
9. 60
10. A
11. 2
12. B
13. C
14. 1
15. D
16. 67.2
17. B
18. 128
19. A
20. 0.5
21. B
22. 3
23. A
24. 36
25. A

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